

CLAIMS:

1. A microelectronic assembly, comprising:
  - a) a first microelectronic element having a first face with first contacts exposed at the first face, the first face facing in a first direction;
  - b) a second microelectronic element having a first side with second contacts exposed at the first side, the first side facing in a second direction opposite to the first direction;
  - c) a substrate underlying the first microelectronic element and the second microelectronic element, the substrate having first terminals, second terminals and at least one third terminal, the first contacts being connected to the first terminals and the second contacts being connected to the second terminals; and
  - d) a conductive member disposed between the first microelectronic element and the second microelectronic element, the conductive member being connected to at least one of the third terminals.
2. The assembly of claim 1, wherein the first face of the first microelectronic element faces the substrate and the first side of the second microelectronic element faces away from the substrate.
3. The assembly of claim 2, wherein the second microelectronic element overlies the first microelectronic element.
4. The assembly of claim 1, wherein the substrate has a first surface facing in the first direction and a second surface facing in the second direction.
5. The assembly of claim 4, wherein the substrate includes first pads exposed at the second surface of the substrate and connected to the first terminals, the first contacts being connected to the first pads.
6. The assembly of claim 5, wherein the first terminals are exposed at the first surface of the substrate.

7. The assembly of claim 5, wherein the first pads are connected to the first contacts by masses of bonding material.

8. The assembly of claim 7, further comprising a dielectric material disposed between the first face and the second surface of the substrate, and in-between the masses.

9. The assembly of claim 8, further comprising a dielectric material disposed over the substrate, first microelectronic element, and second microelectronic element.

10. The assembly of claim 6, wherein the first terminals include vias extending through the substrate.

11. The assembly of claim 5, wherein the substrate includes second pads exposed at the second surface of the substrate and connected to the second terminals, the second contacts of the second microelectronic element being connected to the second pads.

12. The assembly of claim 11, wherein the second contacts and second pads are connected by wires.

13. The assembly of claim 12, wherein the second terminals are exposed at the first surface of the substrate.

14. The assembly of claim 13, wherein the second terminals include vias extending through the substrate.

15. The assembly of claim 4, wherein the first microelectronic element has a second face facing oppositely from the first face and the second microelectronic element has a second side facing oppositely from the first side, the conductive member being disposed between the second face and the second side.

16. The assembly of claim 15, wherein the conductive element is adhered to the second face and the second side.

17. The assembly of claim 11, wherein the substrate includes at least one third pad exposed at the first surface and the conductive member is connected to the third pad.

18. The assembly of claim 17, wherein the second pads and third pads are disposed outwardly from the first microelectronic element.

19. The assembly of claim 17, wherein the conductive element is connected to the third pad by wires.

20. The assembly of claim 4, wherein the substrate includes an aperture and first pads exposed at the first surface of the substrate, and the first contacts are connected to the first pads.

21. The assembly of claim 20, further comprising a dielectric material disposed between the first face and the second surface and in the aperture.

22. The assembly of claim 20, wherein the first contacts are connected to the first pads by wires that extend through the aperture.

23. The assembly of claim 3, wherein the conductive member has a first width and the second microelectronic element has a second width less than the first width so that the second microelectronic element overlies a first portion of the conductive member and a second portion of the conductive member lies outwardly of the second microelectronic element.

24. The assembly of claim 23, wherein the substrate includes pads exposed at the second surface of the substrate, the pads being connected to the at least one third terminal, and the conductive member is connected to the pads, at the second portion of the conductive member.

25. A method of making a microelectronic assembly, comprising:

a) providing a substrate having a plurality of pads, including first pads, second pads and third pads, exposed at a first surface of the substrate;

b) arranging a first microelectronic element with the substrate and connecting first contacts exposed on the first face to the first pads;

c) connecting a conductive member to the first microelectronic element;

d) connecting a second microelectronic element to the conductive member, a first side of the second microelectronic element having second contacts exposed thereat;

e) connecting the second contacts to the second pads; and

f) connecting the conductive member to the at least one third pad, the conductive member being disposed between the first microelectronic element and the second microelectronic element.

26. The method of claim 25, wherein the conductive member is connected to the at least one third pad before the second contacts are connected to the second pads.

27. The method of claim 25, wherein the first face of the first microelectronic element faces the first surface of the substrate and the first contacts are connected before the second contacts and the conductive member.

28. The method of claim 27, wherein the step of connecting the first contacts to the first pads includes disposing masses of bonding material between the first contacts and the first pads.

29. The method of claim 25, wherein the step of connecting the first contacts to the first pads includes attaching wires to the first contacts and the first pads.

30. The method of claim 25, wherein the conductive member is connected to the first microelectronic element and the second microelectronic element by adhesive.

31. The method of claim 30, further comprising the step of curing the adhesive after the step of connecting the second microelectronic element to the conductive member.

32. The method of claim 25, wherein the step of connecting the second contacts to the second pads includes attaching wires to the second contacts and the second pads.

33. The method of claim 25, wherein the step of connecting the conductive member to the third pads includes attaching wires to the conductive member and the third pads.

34. The method of claim 33, wherein the third pads are connected to a ground or voltage source.

35. The method of claim 25, further comprising introducing a flowable material to the assembly so as to surround at least the second contacts, second pads, and third pads.

36. The method of claim 25, further comprising introducing a flowable material between the first face of the first microelectronic element and the first surface of the substrate so as to surround the first pads and the first contacts, after the step of connecting the first contacts to the first pads.

37. The method of claim 25, wherein the conductive member comprises an aluminum plate.

38. The method of claim 25, wherein the conductive member is wider than the second microelectronic element and the conductive member is connected to the third pads by attaching a wire to a portion of the conductive member disposed outwardly of the second microelectronic element.